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| AFRICA RISING - Enhancing partnership among Africa RISING, NAFAKA and TUBORESHE CHAKULA Programs for fast tracking delivery and scaling of agricultural technologies in Tanzania Quarterly Report  Quarter – 01 January, 2017 – 31 March, 2017 |





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Contents

[I. ACTIVITY OVERVIEW/SUMMARY 3](#_Toc480708909)

[1.1 Executive summary 3](#_Toc480708910)

[1.2 Summary of results to date 5](#_Toc480708911)

[2. ACTIVITY IMPLEMENTATION PROGRESS 7](#_Toc480708912)

[2.1 Progress narrative 7](#_Toc480708913)

[2.2 Implementation status and planned activities 8](#_Toc480708914)

[2.2.1 Establishment of demonstration sites 8](#_Toc480708915)

[2.2.2 Training activities for extension staff and lead farmers 10](#_Toc480708916)

[2.2.3 Training activities for farmers 11](#_Toc480708917)

[2.2.4 Field days in Mbozi District 12](#_Toc480708918)

[2.2.5 Problems and challenges 12](#_Toc480708919)

[2.2.6 Planned activities 14](#_Toc480708920)

[3. INTEGRATION OF CROSS-CUTTING ISSUES and USAID FORWARD PRIORITIES 15](#_Toc480708921)

[3.1 Gender equality and women’s empowerment 15](#_Toc480708922)

[3.2 Youth Engagement 15](#_Toc480708923)

[3.3 Local capacity development 16](#_Toc480708924)

[3.4 Integration and collaboration 16](#_Toc480708925)

[3.5 Sustainability 16](#_Toc480708926)

[3.6 Environmental compliance 16](#_Toc480708927)

[3.7 Global climate change 16](#_Toc480708928)

[3.8 Policy and governance support 16](#_Toc480708929)

[3.9 Private Sector engagement, Public Private Partnerships (PPP), and Global Development Alliance (GDA) collaboration 17](#_Toc480708930)

[3.10 Science, technology, and innovation 17](#_Toc480708931)

[4. STAKEHOLDER PARTICIPATION AND INVOLVEMENT 18](#_Toc480708932)

[5. MANAGEMENT AND ADMINISTRATIVE ISSUES 18](#_Toc480708933)

[6. Monitoring, evaluation, and LEARNing 18](#_Toc480708934)

[7. SPECIAL events FOR NEXT QUARTER 18](#_Toc480708935)

[8. ANNEXES 19](#_Toc480708936)

[8.1 Annex I. Performance against PMP indicators for Project Year III (2016/17) 19](#_Toc480708937)

[8.2 Annex III: Success Story 23](#_Toc480708938)

**Cover photo**

Contrasting scenarios of rainfall variability in project locations. The rains came late in Babati District (left) thereby affecting crop performance, while in Kongwa District (right) the rains were on time resulting in good crop performance. Photo credit: Haroon Sseguya/IITA.

# Activity Overview/Summary

|  |  |
| --- | --- |
| **Activity Name:** | AFRICA RISING- Enhancing partnership among Africa RISING, NAFAKA, and TUBORESHE CHAKULA Programs for fast tracking delivery and scaling of agricultural technologies in Tanzania |
| **Activity Start Date:** | 1 October, 2014 |
| **Activity End Date:** | 30 September, 2017 |
| **Name of Prime Implementing Partner:** | International Institute of Tropical Agriculture (IITA) |
| **Contract/Agreement Number:** | BFS-G-11-00002 |
| **Name of Subcontractors/Sub awardees:** | Agricultural Research Institute, Dakawa/Chollima  International Maize and Wheat Improvement Center (CIMMYT)  World Vegetable Center (WorldVeg) |
| **Major Counterpart Organizations** | * International Center for Tropical Agriculture (CIAT) * World Agroforestry Center (ICRAF) * Agricultural Research Institute, Hombolo * Agricultural Research Institute, Selian * Kilombero Agricultural Research and Training Institute (KATRIN) * Horticultural Research and Training Institute (HORTI)-Tengeru * District Agricultural Councils * Meru Agro-seed Company and Consultancy * Aminata Agro-seed company |
| **Geographic Coverage**  **(Districts, Regions, and/or Zanzibar)** | * Babati and Kiteto Districts (Manyara Region) * Kongwa District (Dodoma Region) * Kilombero, Ifakara, Kilosa, and Mvomero Districts (Morogoro Region) * Iringa rural and Kilolo Districts (Iringa Region) * Mbarali and Mbeya Rural Districts (Mbeya Region) * Mbozi District (Songwe Region) |
| **Reporting Period:** | 01 January, 2017 – 31 March, 2017 |

## Executive summary

The Africa RISING-NAFAKA partnership project focuses on delivery and scaling of promising interventions that enhance agricultural productivity in Tanzania. The key interventions include introduction of improved crop varieties, dissemination of best-bet crop management packages, rehabilitation and protection of natural resources, and reduction of food waste and spoilage. The project focused on three crop enterprises (maize, rice, and vegetables) with postharvest handling and nutrition as a cross-cutting theme. Legumes are also promoted as a means of better natural resource management and improving nutrition.

The key partners in the project are international agricultural research centers and one USAID-funded project under the Feed the Future (FtF) Initiative in Tanzania—CMSD/NAFAKA. These work in partnership with national agricultural research institutions, as well as local government authorities, private sector (seed companies, millers, and processors), and non-government organizations (NGOs) to deliver on the strategic objective of increasing the productivity of key value chains in Tanzania. During the current quarter, project activities were implemented in 11 districts in the regions of Dodoma, Iringa, Manyara, Mbeya, Morogoro, and Songwe, all in the Feed the Future’s (FtF’s) Zone of Influence (ZoI).

During the reporting period, 170 mother and 1,358 baby demonstration and learning sites were established for maize activities in seven districts (Mvomero, Kilosa, Kongwa, Kiteto, Kilolo, Babati, and Iringa rural). These complemented 30 mother and 200 baby demonstration and learning sites established in Mbozi District in the previous quarter. Furthermore, 52 mother and 1,275 baby demonstrations were established for rice activities in Mbarali, Kilombero, Ifakara, Mvomero, and Iringa Rural Districts. Various training activities were also conducted for project beneficiaries.

Training on good agricultural practices (GAPs) in maize and legumes and data management was provided to 19 extension staff in Mvomero District (12M, 7F). Relatedly, training on aflatoxin management in maize was provided to 178 extension staff from 10 districts in Manyara, Dodoma, and Morogoro regions (139M, 39F). A total of 1,585 lead farmers (658M, 927F) were also trained on GAPs in maize, legumes, vegetables, and rice; whereas 1,122 farmers (938M, 184F) were trained on aflatoxin management in maize. 38,599 (19,601M, 18,998F) farmers were trained on maize and rice production by the district extension staff and village-based agricultural advisors (VBAAs) technically backstopped by project staff (Africa RISING and NAFAKA) at the mother and baby sites. Vegetable training focused on seed reproduction, postharvest handling, postharvest technologies, and cooking shows were conducted in Kilombero and Iringa rural districts with 167 farmers (65M, 102F).

The main challenge encountered was unpredictable rains in most project locations, as well as pest attacks (maize stalk borer and armyworm), which affected production activities for many of the project beneficiaries.

The key planned activities for the next quarter include (i) training farmers, artisans for postharvest activities, QDS producers, and government extension staff; (ii) farmer field days; (iii) monitoring visits to project sites; and (iv) data collection.

## Summary of results to date

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Indicators**  *List all indicators per IR and indicate in brackets whether it is a standard or custom indicator. Indicator definitions should go in the Annex.* | **FY 2016-2017 Annual Target** | **Q1**  **FY16/17** | **Q2**  **FY16/17** | **Q3**  **FY16/17** | **Q4**  **FY16/17** | **Achievements FY 16/17** | **Percent Achieved FY17 (%)** | **LOP Target** | **LOP Achievements to Date** | **LOP Percent Achieved (%)** |
| EG.3-1: (4.5.2-13) Number of households benefiting directly from USG interventions (RAA) | 47,000 | 9,255 | 36,126 |  |  | 36,126 | 76.9% | 47,000 | 38, 122 | 81.1% |
| EG.3.2-1: (4.5.2-7) Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training (RAA) (WOG) | 47,200 | 2,526 | 42,364 |  |  | 42,364 | 89.7% | 47,200 | 44,456 | 94.2% |
| EG.3.2-4: (4.5.2-11) Number of for-profit private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG food security related organizational development assistance (RAA) (WOG) | 200 | 179 | 196 |  |  | 196 | 98% | 200 | 196 | 98% |
| \*EG.3.2-17: (4.5.2-5) Number of farmers and others who have applied improved technologies or management practices with USG assistance (RAA) (WOG) |  |  |  |  |  |  |  | 47,000 | 10,345 | 22.3% |
| \*EG.3.2-18: (4.5.2-2) Number of hectares of land under improved technologies or management practices with USG assistance (RAA) (WOG) |  |  |  |  |  |  |  | 58,000 | 12,952.96 | 22% |

\*These indicators are reported annually.

# ACTIVITY IMPLEMENTATION PROGRESS

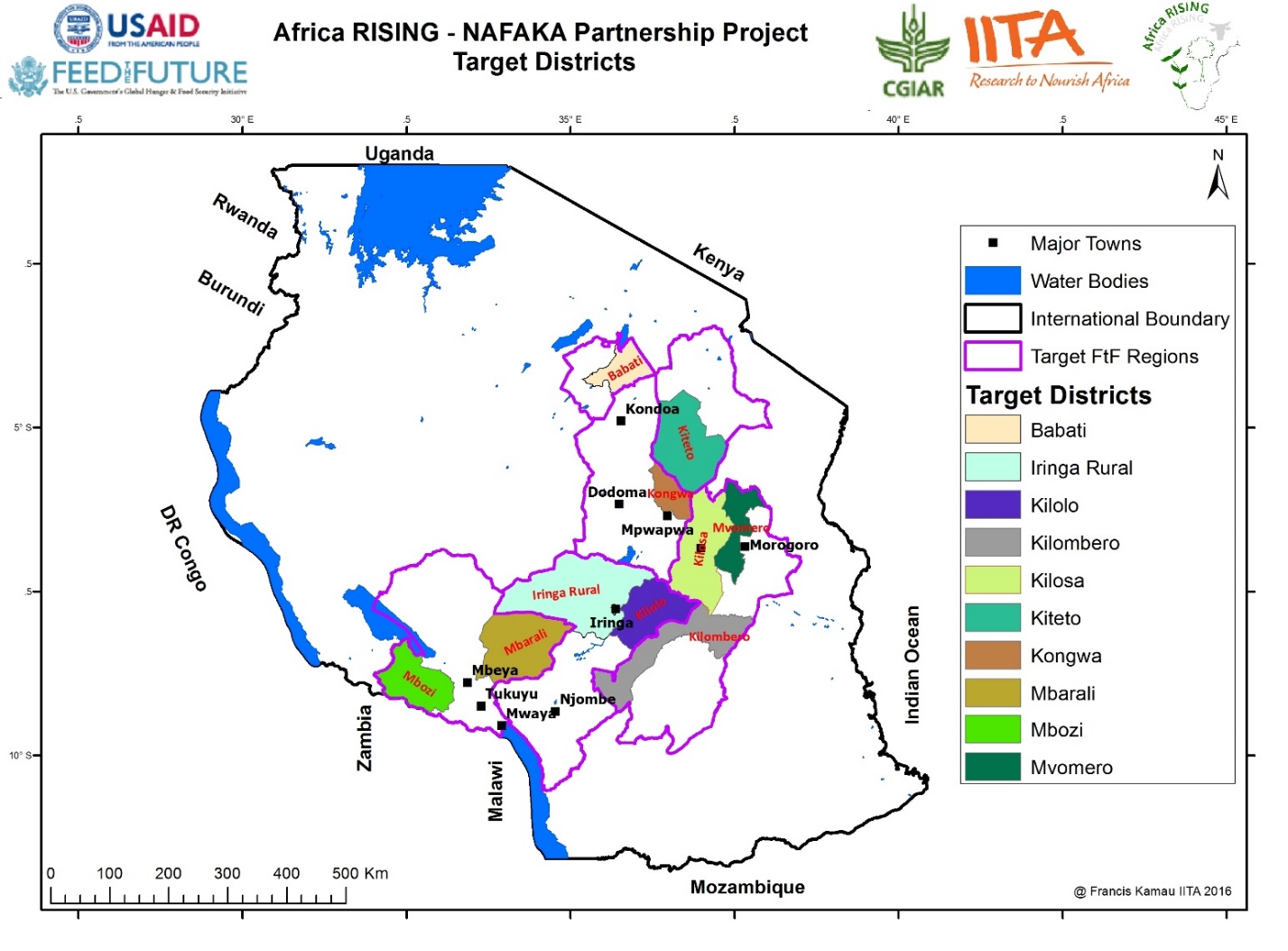
## Progress narrative

Africa RISING partners are involved in the delivery of information and technology packages through a network of CMSD/NAFAKA project and other public and private sector actors. These are aimed at contributing to the FtF goal of harmonizing regional hunger- and poverty-fighting efforts in countries with chronic food insecurity and insufficient production of staple crops. Attractive interventions in this project include the introduction of improved crop varieties, dissemination of best-bet crop management packages, rehabilitation and protection of natural resources, and postharvest management.

The project focused on four crop enterprises (maize, legumes, rice, and vegetables) with postharvest handling and nutrition as cross-cutting themes. The key partners in the project include international agricultural research centers (IITA, CIMMYT, CIAT, ICRAF, the World Vegetable Center and one USAID-funded project, CMSD/NAFAKA. These work in partnership with national agricultural research institutions (ARIs) such as Dakawa (leads the rice theme), Selian, HORTI-Tengeru, and Kilombero (KATRIN). Local government institutions, specifically DAICOs, private sector (seed companies, millers and processors) and NGOs are also part of the project implementers to deliver on the following objectives:

1. Introduce and promote improved and resilient varieties of food crops to farm households in a manner that complements their on-going farm enterprises, contributes to sustainable agricultural resource management, and offers nutritional advantages and alternative market channels;
2. Disseminate best-bet agronomic management packages around the most promising new crop varieties suited to widely representative agro-ecological zones and market proximity;
3. Protect land and water resources and foster agricultural biodiversity through the introduction of soil and water management practices;
4. Increase food security and improve household nutrition among the most vulnerable households and their members, especially women and children, by introducing locally adapted and nutrient-rich vegetables;
5. Introduce and promote postharvest management technologies for maize, rice, legumes, and selected vegetable crops to reduce losses and bring quality up to market standards; and
6. Offer and expand capacity services to members of grassroots farmers’ associations, platform partners and development institutions in the scaling process (capacity building), paying particular attention to the special opportunities available to women farmers as technical and nutritional innovators and resource managers.

The project is currently being implemented at six regions in Tanzania, all in the FtF’s ZoI (Figure 1). These include Manyara, Dodoma, Morogoro, Iringa, Mbeya, and Songwe.



**Figure 1:** Project locations

All project activities contribute to the intermediate result (IR) of ‘inclusive broad-based economic growth sustained.’ This is the last year of the project and we plan to achieve the Life of Project (LoP) targets of having 58,000 hectares under improved technologies, 47,000 households benefiting from the project intervention, 47,200 beneficiaries trained, and 200 organizations benefitting from project activities.

## Implementation status and planned activities

## Establishment of demonstration sites

Due to unpredictable rains, procurement of agro-inputs and establishment of demonstration sites meant for the last quarter was delayed in all districts except Mbozi and parts of Babati. In the current quarter, this activity was conducted (Table 1) leading to the establishment of a total of 200 mother and 1,558 baby demonstration sites for maize activities. For rice activities, the remaining demonstration sites, which were also delayed due to lack of rains (11 in Mvomero and 21 in Kilombero districts) were established (Table 2). In total, 52 mother demos and 1,275 baby demonstrations were established for rice activities.

As part of efforts to popularize the use of AflasafeTM for aflatoxin management in maize, plots to test the efficacy of a Tanzanian specific product (AflasafeTM TZ01 and AflasafeTM TZ02) were established in ten districts in Morogoro, Dodoma, and Manyara regions (Mpwapwa, Masasi, Nanyumbu, Kongwa, Kilosa, Kilombelo, Kondoa, Chemba, Kiteto, and Chamwino). In each district, 20 smallholder farms were treated with AflasafeTM and 20 as control. These sites will act as learning sites for extension staff and farmers.

**Table 1.** Agro-input amounts (maize/legumes) procured for the establishment of demonstration and learning sites in the project districts

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **District** | **Maize/legume seed** | | **Fertilizers** | | **Established demonstration sites** | |
| *Amount (MT)* | *Varieties* | *Amount (MT)* | *Types* | *Mother* | *Baby* |
| Mvomero | 1.5 | DK 8031 (.2 MT)  NATA H 104 (.1 MT)  STUKA M1 (.2 MT)  MERU HB 513 \*.3 MT)  Beans (Uyole Njano and Lyamungo 90 (.5 MT)  Soybean (. 2 MT) | 8MT | YaraMila Cereal, DAP, Urea, YaraVera Amidas | 30 | 125 |
| Kilosa | 1.2 | NATA H 104 (0.4 MT)  NATA H 105 (0.4MT)  MERU HB 513 (0.2MT)  STUKA MI (0.2 MT) | 8 MT | Minjingu NAFAKA plus, Minjingu top dressing, DAP, Yara Mila Cereal | 10 | 400 |
| Iringa rural | 0.14 | MERU HB 513 (0.025MT)  LUBANGO (0.03MT)  KH 500- 43A (0.027 MT)  MAMS 913 (0.035MT)  TZH 538 (0.017 MT) | 1.35MT | Yara tobacco  Yara mila cereal  DAP  Nafaka Plus | 38 | 190 |
| Kongwa & Kiteto | 1.60 | NATA H 104 (0.2 MT)  NATA H 105 (0.3 MT)  MERU HB 513 (0.3 MT)  MERU HB 515 (0.3 MT)  MERU IR 621 (0.5 MT) | 7.55MT |  | 26 | 390 |
| Mbozi | 0.25 | SC 719, KITALE 614, UH6303 and Lubango Hybrid | 8 | Yara Mila cereal, DAP, Yara Bela Sulfan, UREA and Amidas | 30 | 200 |
| Babati | 2.20 | MERU HB 513 (1.1MT)  MERU HB 515 (1.1MT) | 6.5MT  6.5MT | Nafaka Plus MinjinguTop dressing | 14 | 98 |
| *Total* |  |  |  |  | *200* | *1,558* |

**Table 2.** Agro-input amounts (rice) procured for establishment of demonstration and learning sites in each district

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **District** | **Rice seed** | | **Fertilizers** | | **Planned demonstration sites** | |
|  | *Amount (MT)* | *Varieties* | *Amount (MT)* | *Types* | *Mother* | *Baby* |
| Iringa rural | 0.91 | SARO5 (0.7MT)  Komboka (0.01MT)  SATO (0.2MT) | \* |  | 10 | 250 |
| Mbarali | 1.51 | SARO5 (1.1MT)  Komboka (0.01MT)  SATO (0.4MT) | \* |  | 10 | 250 |
| Kilombero and Ifakara | 3.43 | SARO5 (3.15MT)  Komboka (0.28MT) | \* |  | 21 | 500 |
| *Subtotal* | *5.85* |  |  |  | *52* | *1,275* |

## Training activities for extension staff and lead farmers

For sustainability and efficiency of project interventions, agricultural extension staff were engaged in project activities. Training activities were held for 19 extension staff (12 M and 7 F) in Mvomero District on two separate occasions on good agricultural practices and data management. In addition, 178 extension staff from 10 districts were trained on management of aflatoxins (139M, 39 F). During the reporting period, more efforts were focused on training lead farmers as indicated in Table 3. In total, 2,707 lead farmers (1,596M, 1,111F) were trained.

**Table 3.** Training of lead farmers by crop enterprise

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Crop Enterprise** | **District(s)** | **Male** | **Female** | **Total** |
| Aflatoxin management in maize | Mpwapwa, Masasi, Nanyumbu, Kongwa, Kilosa, Kilombelo, Kondoa, Chemba, Kiteto, and Chamwino | 938 | 184 | 1,122 |
| Good agricultural practices in maize | Mvomero  Kilolo | 10  328 | 10  432 | 20  760 |
| Good agricultural practices in rice | Mbarali and Iringa rural | 71 | 113 | 184 |
| Vegetable production (land and seed bed preparation, media for raising seedlings and nursery bed management) | Mbeya rural and Mbarali | 249 | 372 | 621 |
| **TOTAL** |  | **1,596** | **1,111** | **2,707** |



Farmer training in management of vegetable nurseries in Ihombe village, Mbeya rural District. Photo credit: Hassan Mndiga/WorldVeg.

## Training activities for farmers

The bulk of activities during the current quarter focused on training of farmers. The training activities were mostly done by district extension staff and VBAAs, technically backstopped by Africa RISING and NAFAKA staff. For maize and rice activities, training activities for farmers took place in all districts (Table 4). As for training of lead farmers, the training topics varied depending on agroecology and crop stage. The training content included proper spacing, soil fertility management, soil and water conservation, pest and disease management, and water management (in rice).

**Table 4.** Farmer training activities by crop enterprise

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Crop Enterprise** | **District(s)** | **Number trained** | | |
| **Male** | **Female** | **Total** |
| Maize | Babati | 1,941 | 368 | 2,309 |
| Kilosa | 1,810 | 1,691 | 3501 |
| Kiteto | 949 | 755 | 1,704 |
| Kongwa | 989 | 720 | 1,709 |
| Kilolo | 836 | 1,436 | 2,272 |
| Iringa rural | 440 | 641 | 1,081 |
| Mbozi | 2,264 | 2,336 | 4,600 |
| Mvomero | 1,341 | 1,383 | 2,724 |
| **Subtotal** |  | **10,570** | **9,330** | **19,900** |
| Rice | Kilombero | 8,239 | 8,516 | 16,755 |
| Mvomero | 792 | 1,152 | 1,944 |
| **Subtotal** |  | **9,031** | **9,668** | **18,699** |
| **Vegetables** | Kilombero | 14 | 64 | 78 |
| Iringa rural | 51 | 38 | 89 |
| **Subtotal** |  | **65** | **102** | **167** |
| **Total** |  | **19,666** | **19,100** | **38,766** |

For vegetable activities, the training built on previous quarter activities. The training for this quarter focused on seed reproduction, postharvest handling, postharvest technologies, and cooking shows. The cooking shows provided an opportunity for participants to cook and taste the vegetables grown in the demonstration plots by using recipes developed by WorldVeg. The cooking show also included information on food safety and hygiene. During the training in Iringa Rural District, additional 226 seed kits were distributed (106 M, 120F).

In collaboration with Africare (USAID-funded Mwanzo Bora Nutrition Project), vegetable activities were started in new villages in Kilolo District. Africare activities put a strong emphasis on nutrition training, the introduction of sack gardens and rabbit keeping for meat production. Together with the vegetables team activities, a collaboration will have a strong impact on the dietary diversity of farm households in those villages. Demonstration plots will be set up next to sack gardens and vegetable varieties will also be used in sack gardens as a combined attempt to increase the availability of vegetables and decrease malnutrition in the selected ten villages.

## Field days in Mbozi District

Mbozi District received good rains compared to other districts; thus, field day activities focusing on beans were held in the three villages of Itaka, Iporoto and Iwalanje. However, because of poor timing (rains and intense field activities), the participant turn up was lower than usual. Only a total 575 farmers participated (311M, 264F) in all the three events (Table 5).

**Table 5.** Number of participants in farmer field days in Mbozi District

|  |  |  |  |
| --- | --- | --- | --- |
| **Village** | **Male** | **Female** | **Total** |
| Itaka | 96 | 87 | 183 |
| Iporoto | 100 | 84 | 184 |
| Iwalanje | 115 | 93 | 208 |
| **Total** | **311** | **264** | **575** |

## Problems and challenges

1. Delayed onset of rains in most locations in Tanzania was the leading challenge during the first part of this quarter. As a result, even farmers who had planted in Babati, Mbarali, Kongwa, Kilolo and Kiteto districts experienced extreme drought. Some farmers were advised to replant afresh as a result of total crop failure after resumption of rains.



Maize crop in Babati District affected by water stress. Photo credit: Haroon Sseguya/IITA.

1. Crop pests, notably maize stalk borer and army worm, have been a challenge in all districts. Farmers were trained on proper management of the pests using pesticides.



Maize crop in Kilosa District affected by armyworms. Photo credit: Jonas Elvis/ICRAF.

1. In Mbarali and Kilolo districts, we noticed that farmers expected a financial compensation for their participation in the training activities. This was due to the previous projects’ interventions, which paid farmers for their participation in training sessions. The project teams have made attempts to explain to all participants that they will not be paid (i.e. they can only receive a seed kit to stimulate their interest in future use of improved technologies). The district authorities are also making efforts to emphasize the issue of non-payment for participation in training activities aimed at development.

## Planned activities

The key planned activities include the following:

1. Training farmers in all project components (maize/legumes, rice, vegetables and aflatoxin management) , artisans for postharvest activities, QDS producers and government extension staff;
2. Farmers’ field days;
3. Monitoring visits to project sites; and
4. Data collection.

# INTEGRATION OF CROSS-CUTTING ISSUES and USAID FORWARD PRIORITIES

## Gender equality and women’s empowerment

The project team experienced a more or less equal participation of male and female farmers in all training activities, except in a few cases, such as participation in vegetable activities (females dominating) and aflatoxin management activities (males dominating). Generally, emphasis is placed on ensuring a balance among youth, male and female farmers when selecting lead farmers, VBAAs, and demonstration site hosts. During training, emphasis is also placed on having equal participation of youth, male and female farmers in the sessions where everyone is encouraged to take part. Scheduling of sessions must also be done when all interested community members can take part.

We have also noted some unique community arrangements, which encourage female participation; this will be further harnessed. For instance, for vegetable activities, female participation in Mbarali and Mbeya rural was over 60% on average. The main reason for the high participation of female farmers in our training activities is the Catholic Relief Services’ (CRS’s) previous training activities in those villages. CRS has conducted training on nutrition with a strong focus on women with children under five years.

## 3.2 Youth engagement

The project has taken initiatives to support youth engagement. In the 2015/16 project year, we piloted the approach of identifying youth in Msufini Village, Mvomero District (2M, 2F) who received training on pest and disease management at Ilonga Agricultural Training Institute, Kilosa District. These youth are actively engaged in providing services in the neighboring villages (figures on the number of beneficiaries will be availed in subsequent quarters). The rice team has made a deliberate focus on encouraging youth to involve themselves in production.

In 2015/16, some youth groups (e.g. Kisegese Village, Kilombero Village) were rewarded with improved rice seeds (100kg) from the project. The district local government, impressed with the achievements of the youth, also rewarded them with fertilizer (50kg). We plan to engage more youth in activities that can make access to services for the general community more accessible through capacity building on pest and disease management, processing (shelling, handling mechanical faults of farm machinery, etc.) and marketing.

Although there is no deliberate focus on youth for vegetable activities, we noticed that in majority of the pilot villages, young farmers under 25 years of age have adopted vegetable varieties (e.g. tomato, African eggplant, African nightshade) that can fetch higher prices than other vegetable types (e.g. amaranth and jute mallow).

The youth seem to understand vegetable production more as a business; whereas other farm households also focus on the nutritional aspect of the vegetables crops grown in their home gardens.

## Local capacity development

The project has a strong focus on working with agricultural extension staff at district and village levels. In addition, we work with VBAAs, who not only serve as a complement to extension staff but also play a key role as frontline actors in the rural agro-input dealer network. In addition, the project works with farmers’ groups and associations whose capacities are developed in good agronomic practices and related technical areas.

## Integration and collaboration

By design, this project is a partnership with the CMSD/NAFAKA project. Thus, we implemented project activities in 9 out of the 11 districts with the NAFAKA project. In addition, we have successfully sought other collaborations with CARITAS and Africare (Mwanzo Bora Nutrition Program) in Iringa Region on vegetables.

## Sustainability

The close collaboration with the district agricultural extension service and with NGOs (CARITAS, Africare, and CRS) aims at linking the farmers to partners and development initiatives that will provide support beyond the life of the project. In collaboration with the CMSD/NAFAKA project, the team works with VBAAs and selected lead farmers who will produce QDS for legumes and rice to sustain the availability of varieties being taken to scale. Furthermore, the project team plans to link local input and other service providers with farmers and local extension staff to ensure continued accessibility of the technologies after the project ends.

## Environmental compliance

As per the project PERSUAP and other guidelines, the team emphasizes judicious use of agro-inputs (integrated soil fertility management) without damaging the natural resource base. In semi-arid locations, we encourage farmers to use improved *in-situ* water conservation technologies such as tied ridges. Management technologies for soils on steep slopes or those affected by high salinity and calcium content underlie the approach used in this project. Given increasing water for production problems, we emphasize the importance of using organic manure and minimizing the use of water in rice production. This is done by promoting the use of water-saving technology (AWD) and establishing bunds around paddy plots in rice, among others.

## Global climate change

The effect of global climate change as exhibited by the delayed onset of rain affected progress of project activities in most districts.

## Policy and governance support

The project activities are in line with the government policy of fostering agricultural development. Consequently, the team has got tremendous support from district and village local governments in all areas where the project activities are implemented.

## Private sector engagement, Public Private Partnerships (PPP), and Global Development Alliance (GDA) collaboration

The project works directly with two agro-input/seed companies registered in Tanzania – Meru Agro Company and consultancy and Aminata Agro Company. Their staff have been instrumental in providing guidance on seed-related matters as well as participating in the rural agro-input network spearheaded by the CMSD/NAFAKA project.

For vegetables, joint testing of small-scale screen houses by WorldVeg/HORTI Tengeru and a private company (A to Z Textiles) with farmer groups in five villages in Babati District is ongoing.

Through the SOYA NI PESA project implemented by a local NGO in Mvomero District, WOPATA (Women and Poverty Alleviation in Tanzania), the project is working with about 200 farmers in nine villages to provide an opportunity for accessing a good market for soybean. The villages include Mkuyu, Lukenge, Kwadoli, Masimba, Pemba, Kunke, Kidudwe, Kanga, and Dihinda.

## Science, technology, and innovation

The rice team has been working with a local fabricator in Kilombero District to develop direct rice seeders and safe herbicide applicators. These are now available for taking to scale and will be disseminated through to the different locations using different avenues (e.g. youth programs, CMSD/NAFAKA grants scheme, etc.).

The vegetables team developed a screen house prototype together with A to Z Textiles, a private company dealing in agronets. The prototype has so far been tested for one season on the WorldVeg campus in Arusha. This trial aimed at testing the general performance of the screen house compared to an outside control plot. It further served to screen six different WorldVeg tomato varieties (Tengeru 97, Tanya, Duluti, Kiboko, Tengeru 2010, Meru) and to compare their performance inside and outside the screen house. The experiment showed that the two indeterminate tomato varieties (Tengeru 2010 and Tengeru 97) performed best (Table 6). On the average, the tomato varieties performed inside the screen house 52% better than outside.

**Table 6.** Comparison of yields inside and outside the screen house

|  |  |  |  |
| --- | --- | --- | --- |
| **Varieties** | **Marketable Yield Screen house** | **Marketable yield Outside** | **Marketable yield Outside/Inside** |
|  | **in kg** | **in kg** | **in %** |
| **Duluti** | 13 504 | 21 560 | 159,7 |
| **Kiboko** | 16 579 | 17 924 | 108,1 |
| **Meru** | 12 516 | 22 993 | 183,7 |
| **Tanya** | 14 564 | 21 571 | 148,1 |
| **Tengeru 2010** | 16 995 | 24 085 | 141,7 |
| **Tengeru 97** | 13 795 | 23 764 | 172,3 |

The same trials will be conducted with eight different screen houses in two different villages in the Babati District based on-farm trials. The latter trials will include a cost-benefit analysis to determine whether the screen house prototype is an economically viable option for smallholder farmers.

# STAKEHOLDER PARTICIPATION AND INVOLVEMENT

See sections 3.3 and 3.4.

# MANAGEMENT AND ADMINISTRATIVE ISSUES

Staffing remains unchanged.

# Monitoring, evaluation, and LEARNing

The PMP indicators are presented in Annex 1. The project team plans to share learning questions and experiences with partners, especially NAFAKA, and these will be reported in the next quarter report.

# SPECIAL events FOR NEXT QUARTER

None.

# ANNEXES

## Annex I. Performance against PMP indicators for Project Year III (2016/17)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Indicator / Disaggregation** | **Target 2017** | **Qr1 (Oct-Dec 2016)** | | | **Qr2 (Jan- Mar 2017)** | | | **Qr3 (Apr – Jun 2017)** | **Qr4 (Jul – Sept 2017)** |
|  | | With NAFAKA | Africa RISING (AR) only | **Total** | With NAFAKA | AR only | **Total** |  |  |
| EG.3-1: (4.5.2-13) Number of households benefiting directly from USG interventions (RAA) | 47,000 | 5,383 | 3,872 | **9,255** | 34,157 | 1,969 | **36,126** |  |  |
| New/Continuing |  |  |  |  |  |  |  |  |  |
| New | 39,392 | 651 | 996 | 1,647 | 28,774 | 1,969 | 30,743 |  |  |
| Continuing | 7,608 | 4,732 | 2,876 | 7,608 | 5,383 | 0 | 5,383 |  |  |
| Location |  |  |  |  |  |  |  |  |  |
| Rural | 47,000 | 5,383 | 3,872 | 9,255 | 34,157 | 1,969 | 36,126 |  |  |
| Urban/Peri-urban |  |  |  |  |  |  |  |  |  |
| EG.3.2-1: (4.5.2-7) Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training (RAA) (WOG) | 47,200 | 1,152 | 1,374 | **2,526** | 40,203 | 2,161 | **42,364** |  |  |
| **Type of Individual** |  |  |  |  |  |  |  |  |  |
| Producers | 47,000 | 1,024 | 1,341 | 2,365 | 40,184 | 1,969 | **42,153** |  |  |
| Male | 23,500 | 509 | 667 | 1,176 | 20,259 | 1,299 | **21,558** |  |  |
| Female | 23,500 | 515 | 674 | 1,189 | 19,925 | 670 | **20,595** |  |  |
| People in government | 160 | 122 | 33 | 155 | 19 | 192 | **211** |  |  |
| Male | 90 | 98 | 24 | 122 | 12 | 147 | **159** |  |  |
| Female | 70 | 24 | 9 | 33 | 7 | 45 | **52** |  |  |
| People in private sector firms | 40 | 6 | - | 6 | - | - | **-** |  |  |
| Male | 20 | 5 |  | 5 | - | - | **-** |  |  |
| Female | 20 | 1 |  | 1 | - | - | **-** |  |  |
| People in civil society |  |  |  |  |  |  | **-** |  |  |
| Male |  |  |  |  | - | - | **-** |  |  |
| Female |  |  |  |  | - | - | **-** |  |  |
| EG.3.2-4: (4.5.2-11) Number of for-profit private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community based organizations (CBOs) receiving USG food security related organizational development assistance (RAA) (WOG) | 200 | 161 | 18 | **179** | 175 | 21 | **196** |  |  |
| Type of organization |  |  |  |  |  |  |  |  |  |
| For-profit private enterprises | 3 | 2 | 1 | 3 | 2 | 1 | 3 |  |  |
| Producers organizations | 197 | 143 | 11 | 154 | 157 | 14 | 171 |  |  |
| Water users associations |  | 16 | - | 16 | 16 | - | 16 |  |  |
| Women's groups |  |  |  |  |  |  |  |  |  |
| Trade and business associations |  |  |  |  |  |  |  |  |  |
| Community-based organizations (CBOs) |  |  | 6 | 6 |  | 6 | 6 |  |  |
| \*EG.3.2-17: (4.5.2-5) Number of farmers and others who have applied improved technologies or management practices with USG assistance (RAA) (WOG) | 47,000 |  |  |  |  |  |  |  |  |
| \*EG.3.2-18: (4.5.2-2) Number of hectares of land under improved technologies or management practices with USG assistance (RAA) (WOG) | 58,000 |  |  |  |  |  |  |  |  |

\*These indicators are measured annually. Therefore data for 2016/2017 will be available in the last quarter of the project year.

## Annex III: Success story

**Vegetable farming opens door to new profits and serves up ample food for thought regarding farming priorities for Tanzanian farmer**

The past two years have offered new revelations in vegetable farming for Mwinyijuma Kiweri. The 51-year old farmer from Kaloleni Village in Kiteto District of Tanzania has been farming for 14 years. But he is literally taking a second look and weighing his options for expanding and intensifying vegetable farming, thanks to first-hand experience with the profitability potential of elite vegetable varieties.

Kiweri is among 3,000 smallholder farmers in rural Tanzania who are participating in on-farm training and demonstrations for improved vegetable production practices through the Africa RISING–NAFAKA project for fast-tracking delivery and scaling of agricultural technologies in Tanzania.

Before joining the project, he had been generating a small amount of additional income from growing vegetables. He considered vegetable farming a source of ‘extra pocket change’. But a look at his farm records since 2015 when he joined the project challenges this perception of vegetable production. His profits from vegetable production in the 2015/2016 season were higher compared to what he earned from maize production (on a much larger area of land).

Through activities implemented by the WorldVeg and HORTI-Tengeru under the Africa RISING–NAFAKA project, Kiweri and his fellow farmers were introduced to elite varieties such as the Ethiopian mustard and Tengeru 2010 tomato that are highly sought after in markets, and then trained on nursery management, good agricultural practices, post-harvest handling and various aspects of agribusiness.

“The project has opened my eyes. Before I got trained, I never considered market needs when producing vegetables. I also did not use any improved vegetable varieties, or follow any particular recommended practices like crop rotation, proper sowing, transplanting, mulching, or appropriate fertilizers and pest control measures,” confesses Kiweri.

He adds that implementing the improved vegetable production practices he learned has resulted in good yields that have earned him profits.

As summarized in the table below, in the 2015/2016 season, from the 0.5 acre-vegetable plot, Kiweri harvested 60 crates of tomatoes and sold 50 crates for TSh 40,000 (USD 20) each, generating a revenue of TSh 2 million (USD 1,000). During the same season, he harvested 86 bags of maize from 7 acres of land. He sold 60 bags at the farm gate for TSh 45,000 (USD 22.5) per bag, generating TSh 2.7 million (US$ 1,350). He kept 26 bags for household consumption. Analysis of this initial information from his farm records, especially in terms of returns to land, are leading him to weigh up his options about which crop to prioritize.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Profitability for integrated maize-tomato production for Mwinyijuma Kiweri in 2016** | | | | | | | | | |
| Crop | Area  (acres) | Harvest | Con-sumed | Unit | Conver-ted to kg | Sold | Price/unit | Revenue  in TSh | Revenue in USD |
| Maize | 7 | 70 | 10 | bag | 100 | 60 | 45,000 | 2,700,000 | 1,350 |
| Tomato | 0.5 | 55 | 7 | crate | 45 | 50 | 40,000 | 2,000,000 | 1,000 |
| Ethiopian mustard | 0.06 | 2,500 | 100 | bunch | - | 2,400 | 200 | 480,000 | 240 |
| Total actual revenue | | | | | | | | 5,180,000 | 2,590 |
| Revenue per acre | | | | | | | |  |  |
| Maize (April–August 2016) | | | | | | | | 385,714 | 193 |
| Tomato (April– August 2016) | | | | | | | | 3,200,000 | 1,600 |
| Ethiopian mustard (April– August 2016) | | | | | | | | 7,680,000 | 3,840 |

The Africa RISING–NAFAKA project uses a holistic approach in training smallholder farmers on the best avenues for investing any bumper income/profits. Using this knowledge, Kimweri has reinvested the profits he earned in buying much needed farming equipment to ensure that he gets even more from his farm in the next season.

“From the agribusiness training provided by the project, we were advised on various ways of investing our income. I have already invested TSh 560,000 (USD 300) from my vegetable sales in buying a two-inch water pump, which simplifies irrigation and will enable me to grow more vegetables in the next season,” he explains. “And I also bought a motorbike with that money,” he adds with a smile.

By incorporating vegetable crops into maize-based systems, the Africa RISING–NAFAKA project is increasing nutritional and dietary diversification for smallholder farm families and enhancing the resilience of smallholder families’ production systems. Growing vegetables also opens up new opportunities for households to make income more frequently because vegetables grow faster than ‘traditional’ farm crops.

Vegetable farming activities are currently being implemented in six districts in Tanzania namely Babati, Kiteto, Kongwa, Kilombero, Iringa rural and Kilolo.



Farmer Kiweri Mwinyijuma in his Ethiopian mustard plot. Photo credit: Alaik Laizer/WorldVeg.



Kiweri with his new two-inch water pump bought from the additional revenues he gained from vegetable production. Photo credit: Alaik Laizer/WorldVeg.

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December 31, 2015)

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